

- \* Clarifies the understanding of what is driving the cost of Universal Service.
- \* Could allow the use of benchmark costs (*e.g.*, billing “should cost” 0.30 per line).
- \* Avoids mischaracterization of costs.
- \* Avoids the link that causes a discount in investment to discount operating expenses.

■ **Separation of structure costs**

In the loop portion of the network, costs are driven by different attributes. Some are driven by number of pairs, some by number of sheaths/cables, etc. Therefore, a model which estimates the cost of this network should incorporate each key characteristic which causes loop costs to vary. The CPM is such a model.

The CPM employs an  $A + Bx$  approach. The A costs are those driven by number of routes  $I$  which cables reside. Examples of these types of costs are the trenching for buried cable, the pulling of underground cable through conduit, the hanging of aerial cable on poles, the sheath component of the cable, etc. The B costs are those which vary by the number of pairs in a cable or cable route. Examples of these types of costs are the actual pairs in a cable, splicing costs, etc. The  $x$  represents the number of pairs.

In addition to the use of the  $A + Bx$  approach, the CPM also separately develops the costs for Poles and Conduit. These again are costs that normally are not related directly to the number of pairs but are related to the efficient mix of structure types and route distances in the network.

Once the costs are developed, they are unitized to a per pair cost that incorporates the number of cables, the cable size, the terrain characteristics, etc.

Compared to other models that use a factor against material costs to determine all of these costs, the CPM approach:

- \* Allows for correct assignment of cost based on cost causality.
- \* De-links material cost discounts from affecting other costs arbitrarily.
- \* Better estimates the costs in all density and terrain zones.

■ **Accounting for efficiency of LEC size**

It is apparent that a larger LEC can be more efficient on many corporate operations based on the fact that it has a larger base to spread the expenses. To account for this size efficiency, the CPM incorporates the use of an ARMIS derived ratio. This ratio is based upon the relative operating expenses of the company compare to an average (statewide/nationwide). By using the ratio, rather than an average expense, large companies are not benefited and small companies are not penalized. And although the ARMIS value is used to estimate relative efficiencies among different sized companies, ARMIS is not used to determine the base amount of expenses. Such expense levels should be forward-looking and based on economic, rather than accounting, practices.

■ **Based on sound economic, financial, and management accounting principles**

As noted in the above statements and the following lists, the CPM provides a superior estimate of the TSLRIC of Universal Service over other models.

- \* TSLRIC principles on both investment and operating expenses
- \* Forward looking technologies/engineering assumptions
- \* Current/forward looking costs
- \* Operating Expenses determined on an ABC approach
- \* Capacity Costs used on investments
- \* Uses forward looking factors/costs - No reliance on ARMIS
- \* Depreciation rates based on forward looking depreciation rates/lives

- \* Adjustment for LEC efficiency

As noted by most economists, the correct cost to use in Universal Service is the TSLRIC. While many models attempt to obtain the TSLRIC based on only the investment, the CPM builds the TSLRIC of the total cost of US. This is done by separating out the investments from the operating expenses. We also have realized that to obtain the correct investment levels, using a proxy approach, the model must use a consistent/uniform, commercially available geographic unit at a level small enough to accurately assess the cost of providing service while accurately assigning the customers to the correct wire center and company equally across all density zones.

**C. Prices Based on the CPM Provide the Right Basis for Make-Buy Decisions for New Entrants**

New entrants should build (“make”) facilities when they can do so at a lower incremental cost than can the LECS. They should lease (“buy”) the use of facilities from the LEC’s when they cannot replicate the LEC’s costs of provision. The CPM provides the right cost basis for this decision.

First, the CPM provides a finely resolved level of geographically deaveraged costs. For example, if costs of providing loops is available only at the level of broad geographies such as wire centers, broad density categories, or census block groups, the cost variation *within* such areas is great.<sup>42</sup> If unbundled prices (*e.g.*, loop prices) are based on such broad averages, the new entrants will build facilities in the low cost, densely populated portion of the geography (*e.g.*, a town center) and lease facilities in the higher - highest cost portion of the geography. This decision would be based on the rate averaging rather than actual underlying costs. The result is a higher cost telephone system and higher consumer prices. The CPM provides cost information for small homogeneous clusters of service areas thus avoiding this problem.

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<sup>42</sup> Examination of the results of the CPM and actual loop samples suggests that there is sometimes more variation within a selected board geography (*e.g.*, within a wire center) than across the geographical categories (*e.g.*, between wire centers).

Second, the CPM portrays the detailed cost of components of a service using flexibly selected technologies. Costs associated with specific loop characteristic as selected by the user are portrayed. For example, one can substitute fiber costs for copper, underground cable for aerial cable, pair grain devices for cable pairs, etc. in the CPM to accommodate changing engineering practices and resource costs. This characteristic of the CPM allows for great transparency in the cost information and therefore provides a clearer basis for making the make-buy decision.

Finally, the CPM is designed to reflect the *processes* the LEC uses to do business by maintaining separate expense information (rather than, for example, a simple “expense factor” applied to investment), the relative efficiencies of operating practices between the LEC and a new entrant can be assessed.

In general, the CPM provides the right economic information to the market. New entrants can more clearly understand where and why their efficiencies surpass or fall short of those of the LECs.

**D. Unbundled Loop Prices Should be Based on the Cost of Loops Plus a Reasonable Contribution Toward Joint and Common Costs**

As described earlier, the efficient level of contribution towards joint and common costs from end user prices is not zero when there are economies of scale and scope. Neither is it appropriate to price loops at incremental cost as was earlier discussed. Whether the ECPR (based on efficient end user prices) is used to determine the level of appropriate contribution or whether the reasonable contribution is chosen otherwise, market prices of loops should be set above the respective deaveraged costs as portrayed by the CPM. This raises the specter of a price squeeze when basic exchange rates, or resale rates derived from basic exchange rates are below cost. There are two viable solutions to this problem.

First, unbundled loop prices may be set above the pertinent costs, requiring the purchaser (presumably the new local exchange competitor) to acquire the same subsidy as


the LEC must acquire (whether this subsidy is provided by an explicit or an implicit mechanism).<sup>43</sup>

Second, the unbundled loop price may be set using the ECPR beginning with the (below cost) end user rate and the difference between that price and the appropriate (above cost) price can be compensated by an explicit subsidy payment to the loop cost provider.

In either circumstance, the provider of the loop must receive the (above cost) market price for the unbundled loop if economic efficiency is to prevail.

Again, the CPM provides the proper cost basis for the loop cost and has a provision to incorporate a reasonable contribution towards joint and common costs.<sup>44</sup>

I declare under penalty of perjury that the foregoing is true and correct. Executed on May 29, 1996, at Del Mar, California.

  
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<sup>43</sup> Note that the new entrant, by virtue of buying the loop or other unbundled components, acquires access to the source of implicit subsidies which, today, finance the below cost services.

<sup>44</sup> The CPM is agnostic with respect to whether the contribution towards joint and common costs is the result of a) an assignment of such costs based on as yet unidentified means of fully allocating efficient costs using cost causation or b) a specified contribution towards such costs using the ECPR or any other means of specifying such contributions.